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ABSTRACT

This paper gives an overview of the Media Equipped Classroom (MEC) program at the State University of New York at Buffalo. In 1988 a study was undertaken to explore alternate ways of providing media equipment services to classrooms at the university. The traditional (current) model of delivery and set-up of audiovisual equipment, relying upon individual requests of faculty, was recognized to be labor intensive and no longer efficient or effective, given the large volume of work orders processed every year. A task force was established to plan to permanently install media equipment into approximately 50 centrally scheduled classrooms and lecture halls over the next 3-5 years as a means of eliminating some of the problems and inefficiencies of the existing model. Topics covered in this paper include the rationale for change; standards for student viewing; the MEC model; basic equipment needs; security, voice, and data considerations; MEC cabinet design; faculty input and acceptance; Phase I of the MEC program; and an evaluation of the three classrooms set up in Phase I. Specific criteria used in the selection, implementation, and evaluation of Phase I are included. Drawings and layouts of the classrooms and lecture halls before and after set-up of the MEC, designs of the stacked media cabinets, media control cabinets, and projection pedestals are appended. (ALF)

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SUPPORTING FACULTY WITH MEDIA EQUIPPED CLASSROOMS:

CONSIDERATIONS FOR DESIGN AND IMPLEMENTATION

ED348949

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Forward

This paper is intended to give an overview of the Media Equipped Classroom (MEC) program at the State University of New York at Buffalo. Topics covered in this presentation will include the design and implementation of the MEC classroom, gathering faculty input and acceptance, budget considerations, evaluation of the three MEC classrooms currently in place and some future plans.

Although the overall responsibility for planning and implementing this MEC program was assigned to the presenter, success would have been doubtful without the assistance and expertise of many of the staff of the Educational Communications Center. In particular, the presenter wishes to acknowledge Dr. Richard Lesniak, Executive Director of the Educational Communications Center, John Hayes, Supervisor of Media Equipment Services, Ronald Cichocki, Assistant Director of Engineering and Video Services and William Maiman, Project Engineer.

When one begins to examine alternatives to the traditional way of doing things it is always surprising to discover that someone, somewhere is already thinking and doing something about it or is already well underway in implementing a program. Such is the case with media equipped classrooms. A few years ago, when just beginning to explore the concept of Media Equipped Classrooms, there were others already doing something in this area. They existed, in one form or another, at several colleges and universities around the country. One place was at the University of Colorado at Boulder under the leadership of Dr. Daniel Niemeyer, Director of Academic Media Services and Shaun Dalrymple, Assistant Director for Technical Support. John Hayes and Ronald Cichocki had the pleasure of spending a few days at the University of Colorado at Boulder to gain first hand knowledge of their program. The presenter is indebted to Dr. Niemeyer and Mr. Dalrymple. Both generously shared what they had already learned and assisted us in getting started.

Background

State University of New York at Buffalo

The State University of New York at Buffalo is the most comprehensive unit of the 64 campus SUNY system, enrolling over 27,000 undergraduate and graduate students. As one of four university centers, its mandate is to concentrate on upper division and graduate programs and research. It offers 93 undergraduate, 113 master's and 83 doctorate degree programs, as well as four professional degree programs and 14 graduate certificates. Faculties include not only the traditional arts and sciences divisions of Art and letters, Natural Sciences and Mathematics, and Social Sciences, but also the Undergraduate College and Schools of Architecture, Dental Medicine, Education,

Engineering, Health Related Professions, Library Studies, Law, Management, Medicine, Nursing, Pharmacy and Social Work.

These diverse programs are housed in the City of Buffalo and the adjoining suburb of Amherst. The older South Campus in the city has been refurbished into a Health Sciences Center and a large, new North Campus was recently completed in the suburbs, approximately five miles from the Health Sciences campus.

The Educational Communications Center

The Educational Communications Center is a university-wide media support service with a full-time staff of 32 and a part-time staff of 80 student-assistants. Educational materials are acquired, produced, stored and distributed within the university and to other institutions within the region. Professional and technical consultation in the design, production and utilization of communications media is available to faculty, staff, students and community. Media Services are carried out by four major units: Media Resources, Information Technology Center, Engineering and Video Services, and Graphic Arts and Photography Services.

Media Resources

Media Resources is made up of three divisions: Media Equipment Services, the Media Library and Instructional Systems Support. The respective purpose of each of these divisions is to provide media equipment, media materials and assistance in utilization and development of programs and materials in support of classroom instruction. These media resources are also available in support of university research, conferences and special events, student activities, public service and administrative activities. Media Equipped Classrooms are an integral part of Media Equipment Services and Instructional Systems Support.

Introduction

In 1988, a study was undertaken to explore alternate ways of providing media equipment services to classrooms at the State University of New York at Buffalo. As a result of this study a Task Force was established to develop a plan to permanently install media equipment into approximately 50 centrally scheduled classrooms and lecture halls over the next three to five years. These classrooms are referred to as Media Equipped Classrooms or MEC.

The overall charge of the Task Force was to:

* determine what resources currently exist to successfully

implement a MEC program;

* determine what new resources are required to successfully implement a MEC program;

* identify the appropriate variables that would affect the implementation of a MEC program;

* seek input from faculty to determine their needs and overall reaction to the MEC concept; and,

* convey an action plan to successfully implement a MEC program.

This was accomplished and a report submitted in February, 1989. Shortly thereafter, sufficient funding was obtained to purchase equipment for three Media Equipped Classrooms and over the Summer recess classroom renovation was carried out.

The Rationale for Change

The Traditional (Current) Model

The current model for the delivery and set-up of audiovisual equipment has been in existence for well over twenty five years. Faculty must telephone, write or visit in person the Media Equipment Services office to reserve their media equipment. Media equipment is then taken out of a store room, delivered and set-up in the instructor's assigned classroom at the scheduled time of use and then removed from the classroom immediately at the close of the class session.

Media equipment is provided to 168 centrally scheduled classrooms and lecture halls located in 32 buildings on two campuses, the new North (Amherst) campus and the older South (Main St.) campus. These two campuses are approximately five miles apart. Media Equipment Services has five full-time staff and approximately 60 student-assistants who work from 10 - 20 hours per week during the academic year. This service unit fulfills approximately 30,000 work orders for audiovisual equipment and operators over the course of the year.

It is recognized that the current mode of supporting faculty with audiovisual equipment is labor intensive and no longer efficient or effective given the large volume of work orders processed every year. Limited staff resources, insufficient amounts of equipment, lack of storerooms and the logistics of constantly moving people, equipment and materials from classroom to classroom (or secure storerooms) and building to building from 7:00 A.M. to 11:00 P.M. daily, adds to the problem. The situation is further compounded by the lack of video playback equipment and microcomputer equipment in the classroom and the means of properly displaying video and data that meet minimum legibility

standards for student viewing.

There are times when equipment arrives late or not at all, arrives in poor condition or fails to function properly when put into use. When equipment failures occur in the classroom, there generally is no means by which an instructor can get assistance from the Media Equipment Services staff in a timely manner. Furthermore, the current system is not all that flexible. An instructor must place a work order for media services at least 48 hours (two working days) in advance of use date. The current system is too cumbersome to allow last minute changes or additions.

None of the conditions described above are conducive to enhancing the quality of teaching at the State University of New York at Buffalo. Lack of flexibility, insufficient equipment, malfunctioning equipment, late arrivals and outright failure to deliver and set-up equipment in the classroom contribute extensively to faculty anxiety and stress. In many instances, where faculty are dependent on using media in their classroom presentations, lectures have either been compromised considerably or have had to be canceled. The quality of student life also suffers.

Media Equipped Classroom Model

Media Equipped Classrooms can do much to eliminate the problems and inefficiencies described in the existing model for Media Equipment Services. By permanently storing equipment in secure storage cabinets, faculty will have direct access to whatever media, instructional materials and other classroom support technology are required to enhance the quality of teaching.

The types of equipment to be installed in these MEC spaces may include but not necessarily be limited to: overhead projector, 35mm slide projector, 16mm movie projector, video tape player (1/2" VHS and/or 3/4" U-Matic), audio cassette tape recorder/player, phonograph, sound reinforcement with [wireless] microphone, video or data monitor, video/data CRT or light valve projector, microcomputer, data and voice communications, projection screen and custom designed cabinets to securely store this equipment.

An integral component of the Media Equipped Classroom is the availability of voice and data lines. A auto/dial telephone is installed in each MEC cabinet that will terminate at the Media Equipment Services office. In the event of a equipment failure or an operational problem the instructor can have immediate contact with a trained media specialist for assistance. In addition, the instructor can also place calls to the Office of Public Safety, the Classroom Hotline, and the Physical Plant. A data line is also provided which will allow the instructor to interface with a

Vax or IBM mainframe computer if required.

Once the MEC classrooms are sufficient in numbers and the bulk of media services are handled within these classrooms, it is expected that complaints arising from inadequate services will be reduced considerably. Equipment failures should be kept to a minimum. Trained student technicians will check and clean the MEC equipment at least once a week and more if necessary. Instructional materials from the Media Library will be delivered and placed in the MEC cabinet the evening before classes begin or during early morning hours. Full-time staff or student media assistants will be on standby when classes are in session to respond, within minutes, in the event of an equipment malfunction. Accessible and functional media equipment and other classroom support technology will do much to relieve faculty anxiety and stress, enhance the quality of teaching and add to the quality of student life.

Basic Equipment Needs

A thorough analysis of equipment needs to support a Media Equipped Classroom was undertaken. The types and kinds of equipment to be permanently installed in a MEC classroom are dependent upon a combination of user needs and the student seating capacity of the classroom. For equipment purposes, the classrooms that were looked at for MEC were divided into four categories based on student seating capacity. The types of equipment that are placed into each category and the approximate costs are listed. Standardization of media equipment is essential for maintenance and repair efficiency and ease of user operation from one MEC classroom to another.

It should also be noted that specific user needs will often dictate variations in what equipment goes into a MEC cabinet. For example, the Department of Art History requires two 35mm slide projectors because of their use of comparative imagery. The Dental School requires both 3/4" U-Matic as well as 1/2" VHS video tape playback. Faculty assigned to teach in a MEC classroom are contacted before the beginning of the semester to assess their specific media needs and every effort is made to satisfy their requests.

Category 1: 10 to 35 Student Seating Capacity

(1)	16mm Motion Picture Projector	850.00
(1)	35mm Carousel Slide Projector w/Remote Control	500.00
*(1)	27" Color Monitor	850.00
(1)	VHS Playback Deck	600.00
(1)	Overhead Projector with Roll Table and Security Bracket	275.00
(1)	Audio Cassette Recorder	350.00
(1)	Projection Screen	110.00

(1)	Auto/Dial Telephone	250.00
(1)	Electronic Security System	150.00
	Miscellaneous Hardware	250.00
(1)	MEC Cabinet (double unit)	1500.00
(1)	MEC Projection Pedestal	470.00

Estimated Cost of Equipment.....6155.00

Estimated Cost of Equipment w/Data Monitor and Microcomputer.....10305.00

* A high resolution data monitor may be substituted for a color monitor at a cost of $3000 and microcomputer at a cost of $2000 if microcomputer support is scheduled for use in the classroom. It is recommended that 50% of all Category 1 MEC classrooms be equipped with a data monitor and microcomputer.

Category 2: 36 to 70 Student Seating Capacity

(1)	16mm Motion Picture Projector	850.00
(1)	35mm Carousel Slide Projector w/Remote Control	500.00
*(2)	27" Color Monitor	1700.00
(1)	VHS Playback Deck	600.00
(1)	Overhead Projector with Roll Table and Security Bracket	275.00
(1)	Audio Cassette Recorder	350.00
(1)	Projection Screen	110.00
(1)	Laser Projection Pointer	350.00
(1)	Auto/Dial Telephone	250.00
(1)	Electronic Security System	150.00
	Miscellaneous Hardware	250.00
(2)	MEC Cabinet (two double units)	3000.00
(1)	MEC Projection Pedestal	470.00

Estimated Cost of Equipment.....8855.00

Estimated Cost of Equipment w/Data Monitors and Microcomputer.....15155.00

* Two high resolution data monitors may be substituted for the color monitors at a cost of $6000 and a microcomputer at a cost of $2000 if microcomputer support is scheduled in the classroom. It is recommended that 50% of all Category 2 classrooms be equipped with data monitors and a microcomputer.

Category 3a: 71 to 225 Student Seating Capacity
(without projection booth)

(1)	16mm Motion Picture Projector	850.00
(2)	35mm Carousel Slide Projector w/Remote Control	1000.00
(1)	CRT Video/Data Projector with Interfaces	12000.00
(1)	Microcomputer	2000.00
(1)	VHS Playback Deck	600.00
(1)	Distributed Speaker System	2500.00
(1)	Overhead Projector with Roll Table and Security Bracket	450.00
(1)	Audio Cassette Recorder	350.00
(1)	Projection Screen - Electric	600.00
(1)	Laser Projection Pointer	350.00
(1)	Auto/Dial Telephone	250.00
(1)	Electronic Security System	200.00
	Miscellaneous Hardware	250.00
(1)	MEC Cabinet (single unit)	750.00
(1)	MEC Cabinet/Projection Pedestal	750.00
	Estimated Cost of Equipment.....	22900.00

Category 3b: 75 to 225 Student Seating Capacity with Projection Booth and Built-in Sound System (Operator Assisted)

* (1)	16mm Xenon Motion Picture Projector	7000.00
* (2)	35mm Xenon Slide Projector	11000.00
* (2)	Projection Screen	1200.00
(1)	Audio Cassette Recorder	350.00
(1)	CRT Video/Data Projector with Interfaces	12000.00
(1)	Microcomputer	2000.00
(1)	VHS Playback Deck	600.00
(1)	Overhead Projector with Roll Table and Security Bracket	450.00
(1)	Wireless Microphone System	1800.00
(1)	Laser Projection Pointer	350.00
(1)	Auto/Dial Telephone	250.00
(1)	Electronic Security System	200.00
	Miscellaneous Hardware	250.00
(1)	MEC Cabinet (single unit)	750.00
	Estimated Cost of Equipment.....	38200.00
	Less Current Inventory.....	19200.00
	Revised Estimated Cost of Equipment.....	19000.00

* Equipment can be obtained from current inventory. For the smaller lecture halls, standard projection equipment will be used.

Category 4: 226 to 500+ Student Seating Capacity with Projection Booth and Built-in Sound System (operator Assisted)

*	(1) 16mm Xenon Motion Picture Projector	7000.00
*	(2) 35mm Xenon Slide Projectors	11000.00
*	(2) Projection Screen	2400.00
	(1) Audio Cassette Recorder	350.00
**	(1) CRT Video/Data Projector with Interfaces	12000.00
	(1) Microcomputer	2000.00
	(1) VHS Playback Deck	600.00
	(1) Overhead Projector with Roll Table and Security Bracket	450.00
	(1) Wireless Microphone System	1800.00
	(1) Laser Projection Pointer	350.00
	(1) Auto/Dial Telephone	250.00
	(1) Electronic Security System	200.00
	Miscellaneous Hardware	250.00
	(1) MEC Cabinet (single Unit)	750.00
	Estimated Cost of Equipment.....	39400.00
	Less Current Inventory.....	20400.00
	Revised Estimated Cost of Equipment.....	19000.00

* Equipment can be obtained from current inventory.

** For the larger lecture halls (500 seating capacity) a light valve projector will be purchased at a cost of approximately $59,000 rather than the CRT projector.

It should be noted that the above equipment costs do not take into consideration the costs of renovating a classroom for MEC use. The MEC cabinets must be permanently mounted in place and proper electrical service and conduit be installed. Classroom lighting needs to be properly zoned and down lighting installed, if needed. In some instances chalkboards must be remounted to properly orientate the classroom and all rooms repainted. This work will be carried out by the University's Physical Plant under the guidance of the project engineer. Attention will be given to the aesthetics of the classroom.

Analysis of Centrally Scheduled Classrooms

There are 168 centrally scheduled classrooms on the North and South campuses. It was recommended that a minimum of 30% of centrally scheduled classroom spaces (50 classrooms and lecture halls) should be MEC equipped. This percentage was based on current use patterns of media services by the faculty.

Sixty five classrooms were initially selected to look at. The initial criteria for this selection were spaces that could be clustered, Media Equipment Services staff could quickly access in the event that an instructor had an equipment failure, and could

be categorized by the seating capacity of the room. Certain classrooms were not considered based on the fundamental physical properties of the room such as ceiling height and lack of adequate space to properly store and utilize equipment.

A MEC classroom data form was developed specifically to gather the kinds of data required to analyze individual classroom environments in which certain kinds of audiovisual equipment could be permanently installed and utilized. The concern was to determine what problems, if any, existed that would prevent or hinder the proper utilization of this permanently installed equipment. If the room environment is inadequate, or could not be brought up to minimum standards, then the room should not be designated as a possible MEC candidate. For example, issues such as viewing distance, site lines, window blocking, zoned lighting, electrical outlets, etc., all affect proper utilization. The appendix contains two examples of how this data form was filled out.

Security, Voice and Data

The proper security of equipment is an integral part of the Media Equipped Classroom program. A system was devised that would protect the equipment from vandalism, theft and unauthorized removal; yet, allow faculty access within reason. A secure cabinet(s) to house media equipment is basic to the plan. In addition, sensor devices located inside the cabinet or on ceiling mounted CRT projectors are wired to security lines that terminate at the campus Public Safety office.

For added security each of the MEC classrooms are locked after the last scheduled class (usually around 10:00 P.M.) by a Media Equipment Services staff person. The classrooms are unlocked at 7:30 A.M. by the building maintenance staff. The MEC classrooms are kept locked on weekends, holidays and during semester breaks.

Multiple dedicated lines are run to the MEC classroom for voice communications and data communications. In the event of an equipment failure, a telephone inside the cabinet can be used to get immediate assistance from the Media Equipment Services staff. An auto/dial telephone was installed where selected campus telephone numbers could be programmed into the handset. In addition to the Media Equipment Services offices, an instructor can also call Public Safety, the classroom hotline and the Physical Plant. These dedicated lines are also used to interface the classroom microcomputer with the VAX or IBM mainframe computer.

Media Equipped Classroom Cabinet Design

A variety of manufactured storage cabinets were examined but none of these cabinets met all of the specifications required for

a MEC classroom. Several custom cabinet makers were contacted to determine the feasibility of having these storage cabinets custom designed and built. One such firm was found and a contractual arrangement was made with Christiana Millwork, Inc., an architectual woodworking firm located outside of Syracuse, New York.

After considerable consultation it was determined that these cabinets should be modular units so as to provide the flexibility required to properly use them in any one of the four designated categories (based on seating capacity) of MEC classrooms. Two cabinets can be stacked so that the upper unit will contain a video or data monitor and playback deck and the lower unit can store a variety of media and classroom support equipment. A projection pedestal has also been fabricated that will match the exterior of the modular cabinets. Where required, it will be placed at the rear of the classroom.

Each of the modular cabinets are constructed of 3/4" particle board and surfaced with a plastic laminate on the exterior and melamine in the interior. The cabinets are secured with a built-in programmable combination lock. The interior compartment of the cabinet has fixed adjustable shelfs. Drawings of the MEC modular cabinet and projection pedestal are in the appendix.

Category 1 type MEC classroom (0-35 seats) will contain two stacked modular cabinets in the front of the room and a projection pedestal at the rear of the room. Category 2 type MEC classroom (36-70 seats) will contain four modular cabinets in the front of the room (two stacked units on each side) and one projection pedestal at the rear of the room. Category 3 type MEC classroom (71-225 seats) without a projection booth will contain one modular unit at the front of the room and one projection pedestal/cabinet at the rear of the room. Those category 3 type rooms with projection booths will not require a projection pedestal at the rear of the room. Category 4 type MEC classroom (226-500 seats) will contain one modular unit at the front of the room.

Faculty Input and Acceptance

A critical element in the planning and implementation of the Media Equipped Classroom program was gaining faculty input and acceptance. It was felt from the very beginning that faculty input was absolutely essential if this program was to be accepted. Individual faculty were contacted to get their ideas on what kinds of media equipment and support they would like to see in these classrooms. In addition, the MEC concept was presented to the Faculty Senate Committee on Teaching Quality, the Faculty Senate Committee on Information and Library Resources and the Office of Teaching Effectiveness. This early input proved valuable in shaping the MEC program. Some of the concerns

expressed by faculty included equipment reliability, proper servicing of the equipment, immediate staff assistance in the event of equipment malfunction, expanded video playback capabilities and the means to properly display data generated from a microcomputer or terminal placed in the classroom.

Later in the process, an abridged Task Force Report on Media Equipped Classrooms along with a survey instrument was sent to over 50 faculty representing a cross section of the disciplines at the University. Overall their response was very favorable towards initiating the MEC program. Some of the faculty could see no reason for change because the current model for media services was adequate. One concern expressed by several senior faculty was the added time they would need to spend before the start of class to open the storage cabinet, remove the equipment, set it up and then secure the equipment at the end of the class session. These people pointed out that this added burden detracts from the amount of time they can spend interacting with individual students before class begins and at the close of class.

Phase I of Media Equipped Classrooms

As mentioned at the beginning of this paper, funding was provided for three MEC classrooms to be operational at the start of the 1989 Fall semester. A Category 3a MEC classroom was set up on the South Campus (Tower 125) and a Category 2 and Category 3a MEC classroom was set up on the North Campus (Capen 10 and Fillmore 322). New equipment was purchased and the MEC classrooms were fully operational at the start of the Fall semester with the exception of the installation of a microcomputer and the capability of data display.

Classroom rehab took place over the Summer recess and was carried out by the trades staff of the Physical Plant. The storage cabinets and projection pedestal were permanently fixed in place and conduit run for electrical service and control circuits. All conduit was either trenched in the floor or run in the ceiling. The classroom lighting fixtures were rewired for zoned lighting control and in one classroom incandescent down lighting was installed. Computing Services and the Telecommunications Office installed multiple dedicated lines for data, voice and security.

The MEC classroom specifications were developed by the Engineering Services staff of the Educational Communications Center. This group also installed all of the equipment and the various control circuits and cables required to make the system operational. CAD drawings of the three MEC classrooms are in the Appendix.

Faculty orientation was carried out by the presenter before the start of the Fall Semester and during the first two weeks of classes. A list of faculty assigned to teach in the MEC

classrooms was obtained from the Office of Classroom Scheduling. Letters were sent out to the faculty explaining the MEC program and asking them to call to arrange for an on-site orientation.

The on-site orientation lasted about one hour. An overview was presented pointing out the advantages (and disadvantages) of teaching in a MEC classroom. Time was set aside for faculty to open the cabinets (built-in combination lock), remove the equipment, set it up, operate the equipment and secure the equipment. Procedures for using the MEC telephone and security procedures were also dealt with. Media Equipment Services support staff were also present to assist in the orientation and for the faculty and support staff to interact with each other. Upon the conclusion of the orientation session faculty were given a laminated, wallet size card with the cabinet combination. If needed, during the first two weeks of the semester a staff member would assist the course instructor in setting-up the media equipment for that class.

Evaluation of Phase I of MEC

The three Media Equipped Classrooms have been in use for one semester. Based on faculty feedback they have been well received. The MEC classroom on the South Campus (Tower 125) was heavily used as a media classroom. The two MEC classrooms on the North Campus (Capen 10 and Fillmore 322) were not as heavily used. The majority of the faculty assigned to these two classrooms did not use media in their teaching. For the 1990 Spring Semester the Office of Classroom Scheduling has given greater attention to assigning faculty who rely on media for their teaching to these MEC classrooms.

Equipment failures have been kept to a minimum. Equipment in the MEC cabinets is checked and serviced weekly. The overhead projector is checked and cleaned three times a week. Faculty like having access to the media equipment in the storage cabinets and appreciate being able to contact the media support staff by telephone when they need assistance.

Some modifications are currently underway based on faculty feedback and staff observations. For the Category 3a MEC classroom (Tower 125 and Fillmore 322) there is too much equipment stored in the cabinet in front of the room. To alleviate this problem the projection pedestal in the back of the room is being replaced with another MEC storage cabinet that will also serve as a projection pedestal. Media equipment that is normally projected from the back of the room will be stored in this new cabinet. There will also be some minor modifications to the cabinet doors and to the remote controls for the slide projectors and the microphone input. These changes should facilitate using the equipment in these rooms as well as allow for the storage and hook-up of a microcomputer.

Fillmore 322, a Category 3a MEC classroom, is now equipped with a microcomputer (IBM PS/2) to support eight computer science courses for the 1990 Spring Semester. The microcomputer is permanently mounted in the MEC cabinet and only the keyboard and monitor is removed from the cabinet when in use. A DCA line is used to connect the microcomputer to a VAX and/or IBM mainframe. Data is displayed using a General Electric Video/Data Projector, Model 310, hung from the ceiling.

Concluding Remarks

The purpose of this paper was to give an overview of the Media Equipped Classroom (MEC) program at the State University of New York at Buffalo. Although these MEC classrooms have only been in service for one semseter, they have been well received by the faculty assigned to teach in these classrooms. The goal is to expand the number of these classrooms to fifty over the next five years. The next phase is to have up to seven more MEC classrooms on-line by September, 1990.* As more of these MEC classrooms become available, the shift of Media Equipment Services will be away from the traditional model of delivery and set-up to a more responsive, client centered mode of operation.

* Due to current budget constraints and workload priorities, Phase II of MEC is targeted for completion September 1991.

Appendix

MEC CLASSROOM DATA FORM

BUILDING CAPEN ROOM NO. 10

1. Room dimensions: length 30.0, width 29.4, height 9.3

2. Seating capacity 56, seating count 58, width of row 9-10

3. Screen size 70 x 70, condition: good ✓, poor ____

4. Distance of screen to first row 11.1, last row 29.3

5. Window(s): yes ✓, no ___, dimensions: length 8.4, width 20.0
   window blocking: drapes ___, curtains ___, blinds ✓, other ___,
   none ___, condition: good ✓, poor ___

6. Blackboard: length 20, height 4,
   condition: good ✓, poor ___

7. Lighting: zoned ____, not zoned ✓,
   lighting fixtures working: yes ✓, no ____

8. Rate the overall appearance of room:
   excellent ___, very good ✓, marginal ___, unsatisfactory ___
   requires: painting ____, repair of ceiling/walls ____,
   fixing/replacing of chairs ____
   other comments _____

Prepared by: Jan S Date: 11/5/88

Place the following symbols in the approximate location on the drawing:

(S) light switch

access door

screen

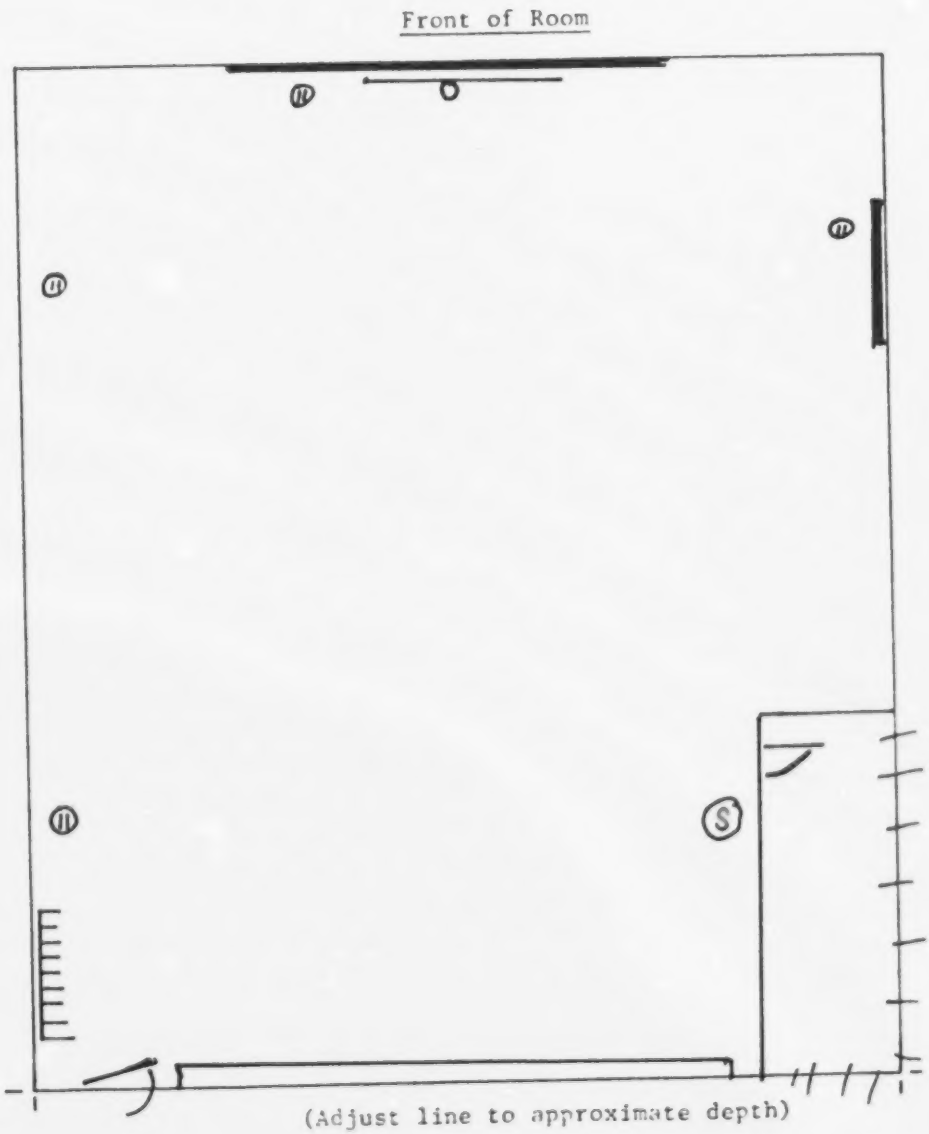
chair

(II) duplex outlet

window

coat rack

blackboard



MEC CLASSROOM DATA FORM

BUILDING TOWER ROOM NO. 125

1. Room dimensions: length 40', width 46', height 10'

2. Seating capacity 100, seating count 95, width of row 6'

3. Screen size ___ x ___, condition: good ___, poor ___

4. Distance of screen to first row ___, last row ___

5. Window(s): yes ✓, no ___, dimensions: length 6', width 4'
   window blocking: drapes ___, curtains ___, blinds ✓, other ___,
   none ___, condition: good ✓, poor ___

6. Blackboard: length 28', height 4',
   condition: good ✓, poor ___

7. Lighting: zoned ___, not zoned ✓,
   lighting fixtures working: yes ✓, no ___

8. Rate the overall appearance of room:
   excellent ✓, very good ___, marginal ___, unsatisfactory ___
   requires: painting ___, repair of ceiling/walls ___,
   fixing/replacing of chairs ___
   other comments ___

Prepared by: RI & FS Date: 11/5/88

TOWER 125

Place the following symbols in the approximate location on the drawing:

(S) light switch

access door

screen

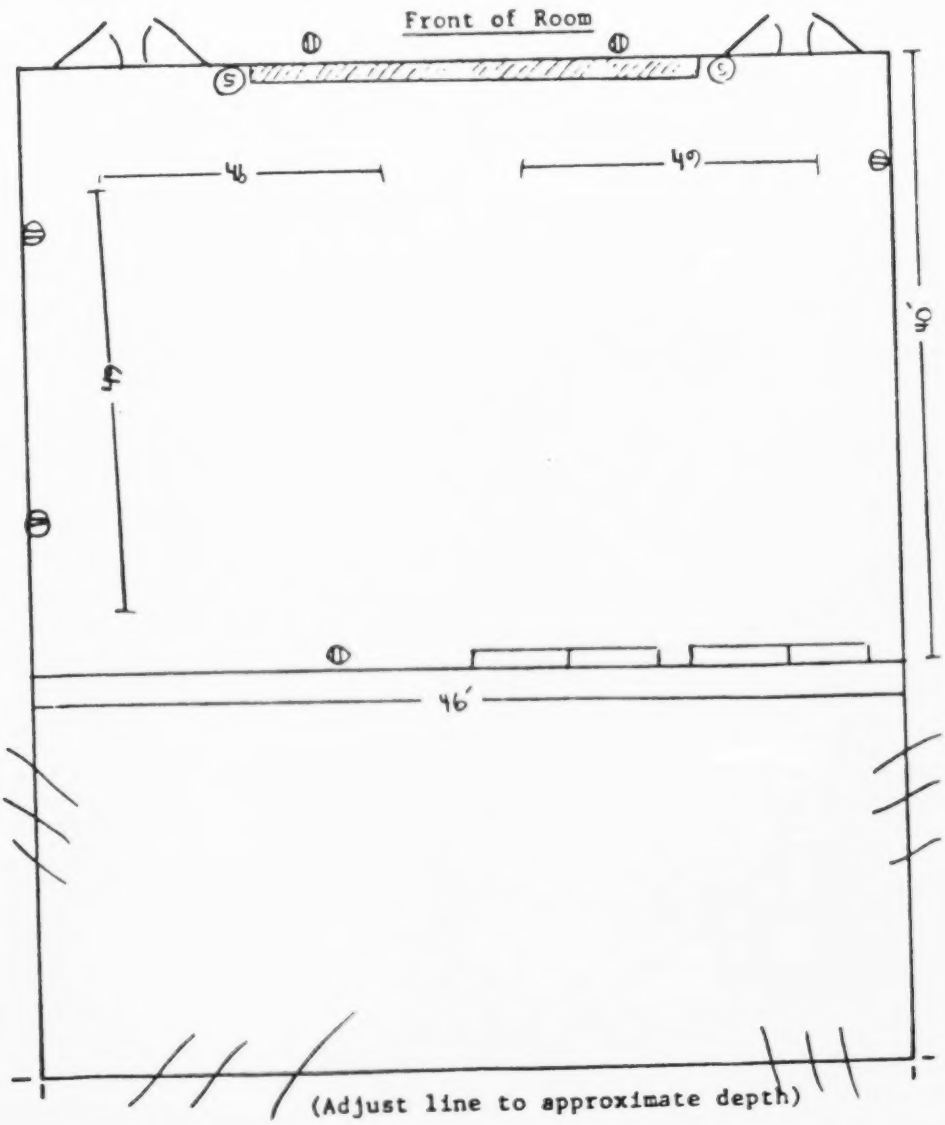
h chair

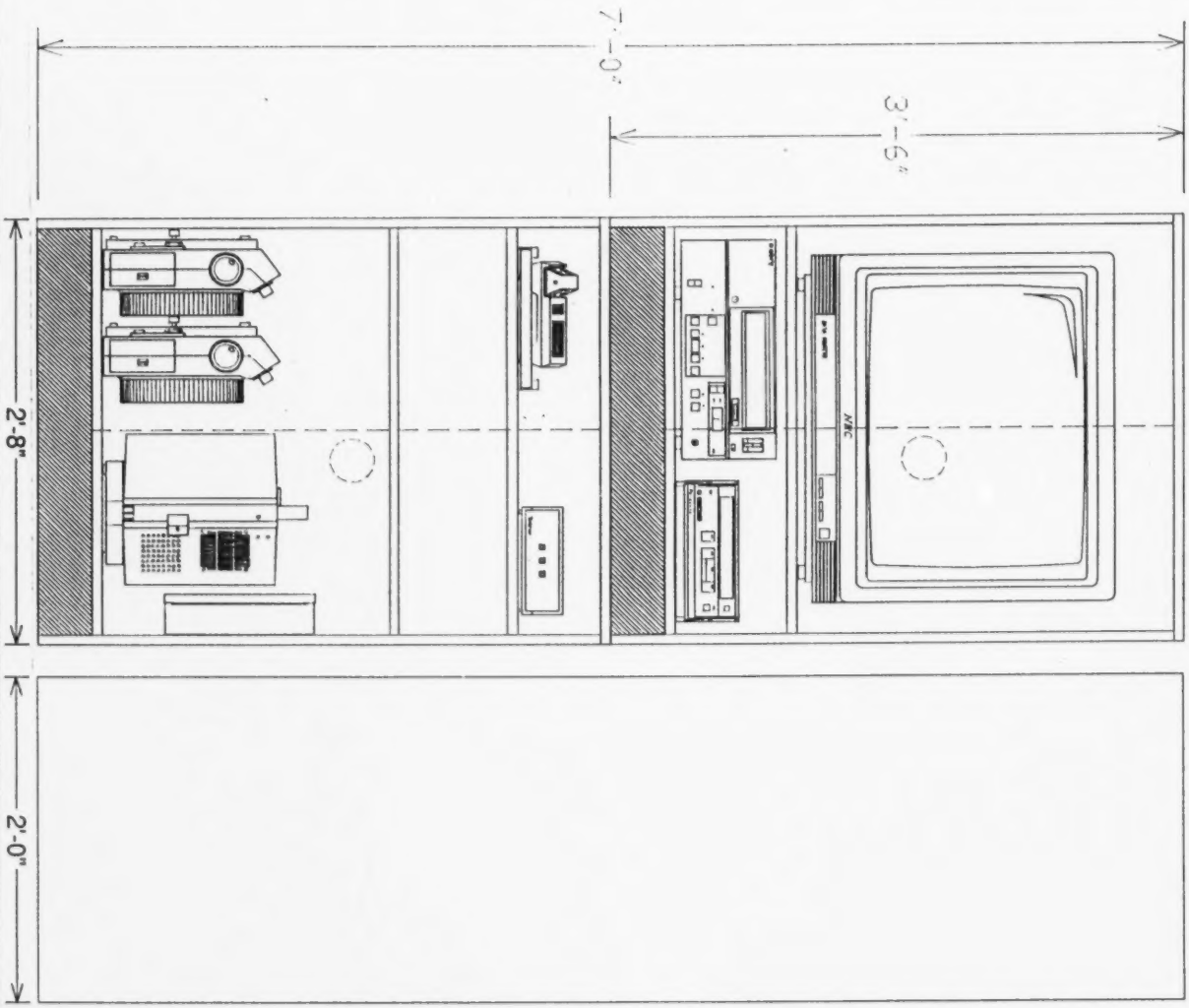
(11) duplex outlet

window

coat rack

blackboard





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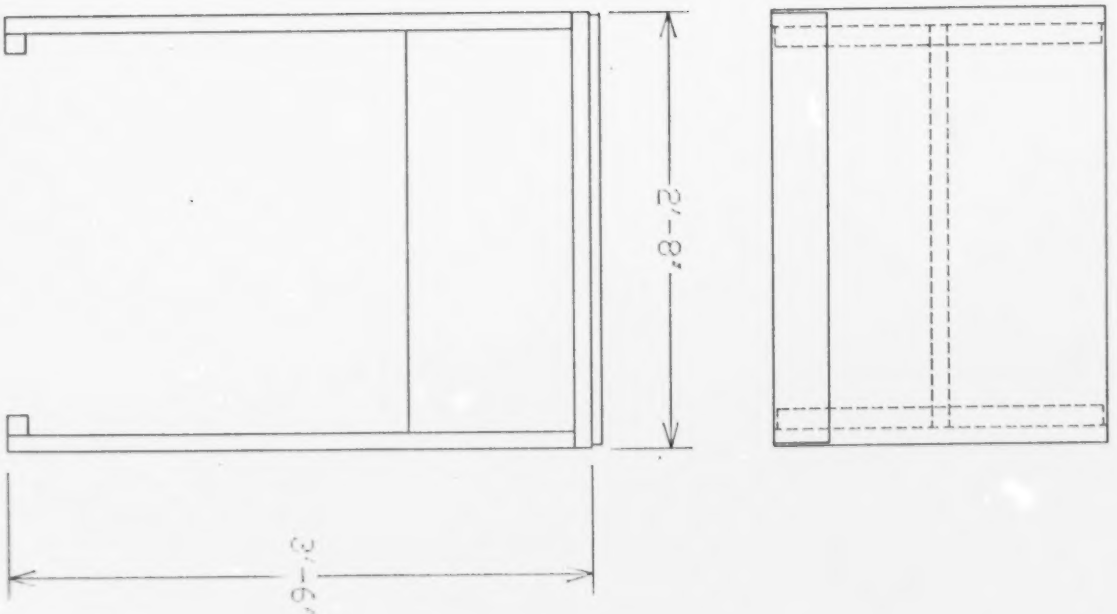
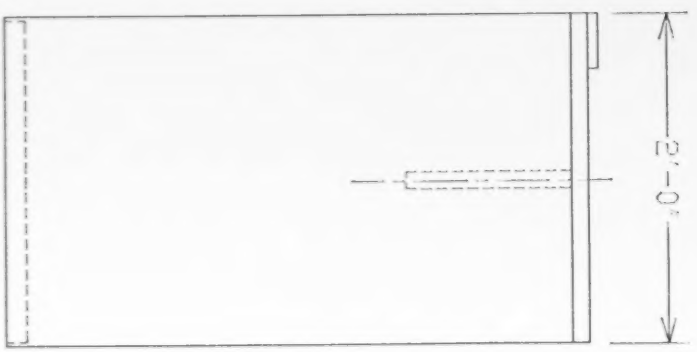
	CKD. BY: R.C.	
	APP. BY:	
	DATE: 8/16/89	
STACKED MEDIA CABINETS	CONCEPT: BC	# 6

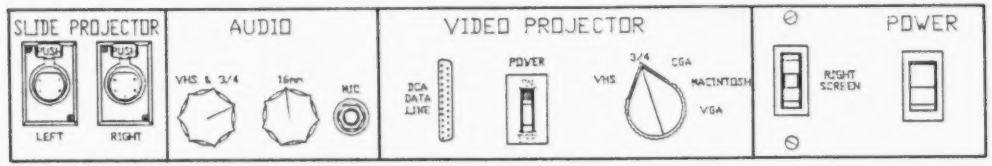




SIDE

UNIVERSITY AT BUFFALO STATE UNIVERSITY OF NEW YORK Educational Communications Center Engineering Services		DWN. BY: J.S.G. CKD. BY: R.C. APP. BY: DATE: 8/16/89
	PROJECTION PEDESTAL	CONCEPT: BC # 7

MASTER CONTROL PANEL



SONY 3/4" VIDEO TAPE PLAYER

PANASONIC VHS TAPE PLAYER

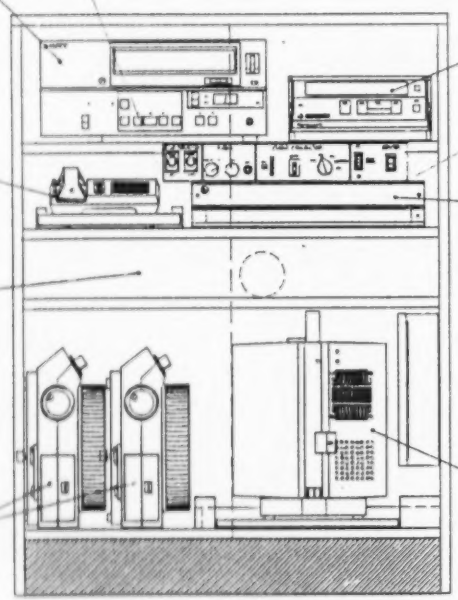
AUTODIAL TELEPHONE

GENERAL ELECTRIC VIDEO PROJECTOR CONTROL UNIT

COMPUTER INTERFACE CABLES

2 KODAK SLIDE PROJECTORS

16mm BELL & HOWELL MOVIE PROJECTOR



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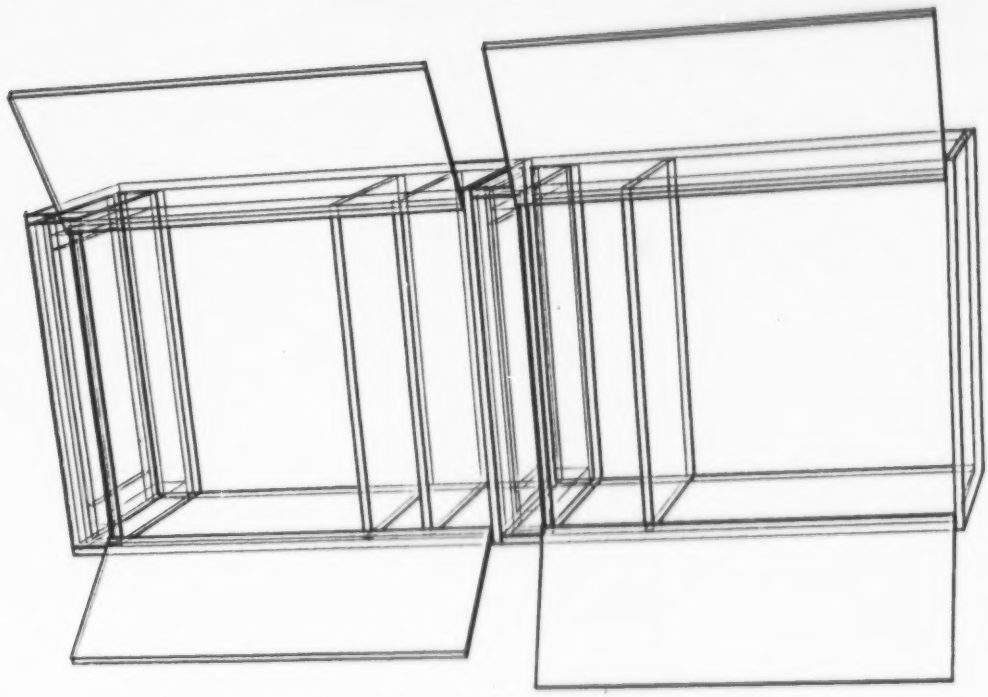
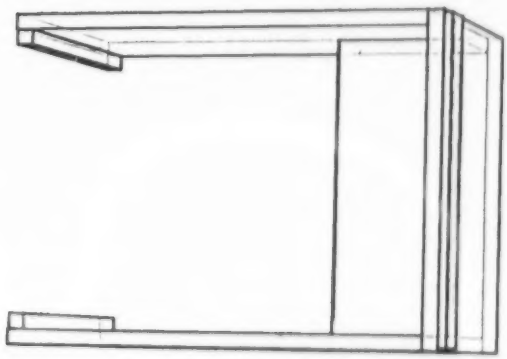
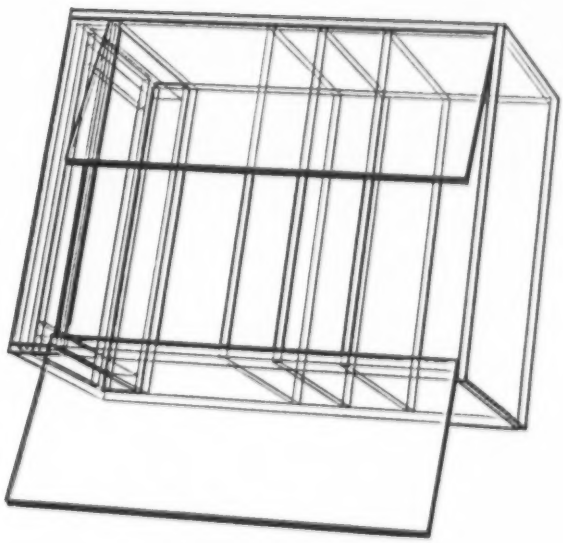
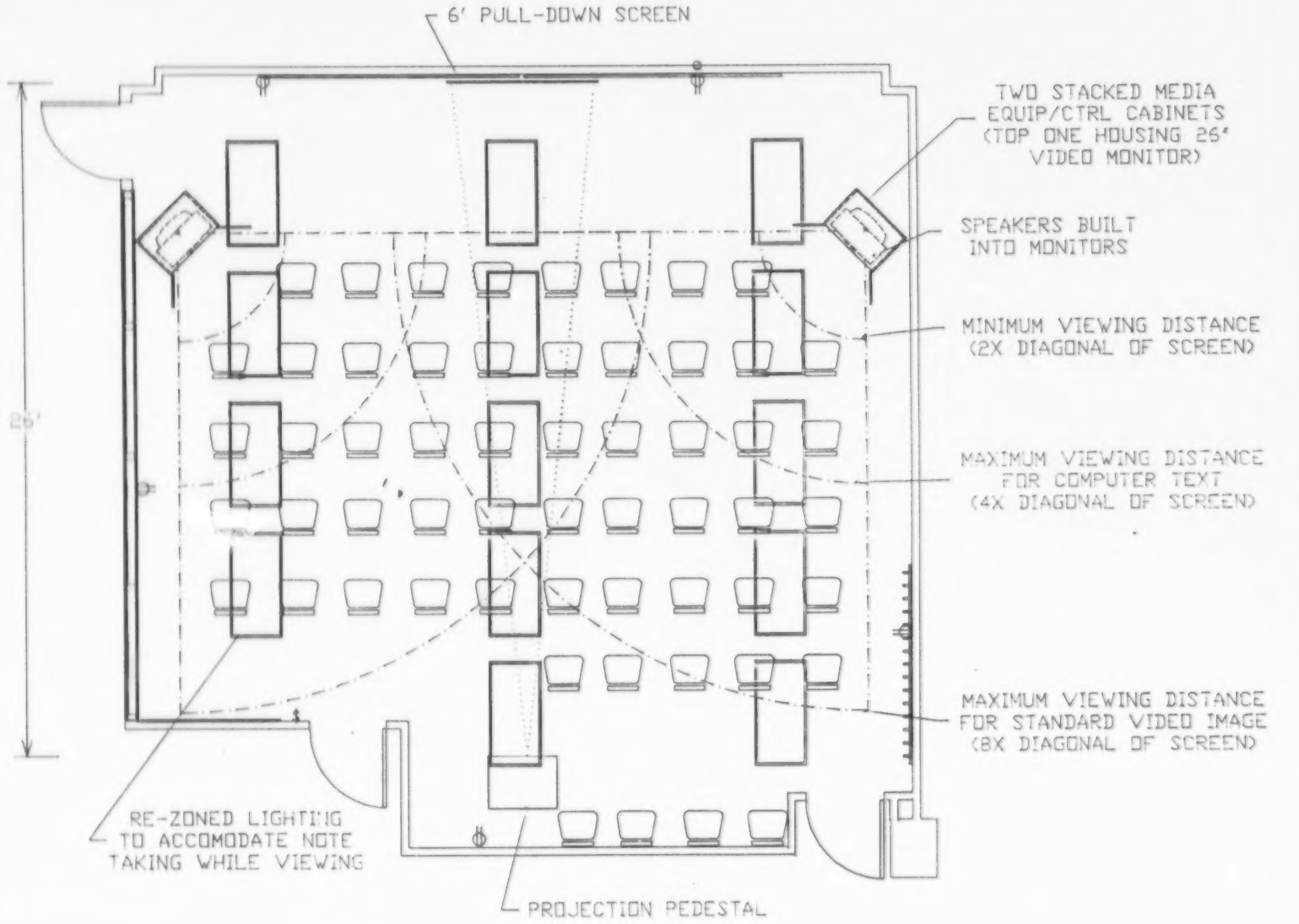
CONCEPT:	BC
#5.1	

MEDIA EQUIPMENT/CONTROL CABINET








6' PULL-DOWN SCREEN
TWO STACKED MEDIA EQUIP/CTRL CABINETS (TOP ONE HOUSING 26" VIDEO MONITOR)
SPEAKERS BUILT INTO MONITORS
MINIMUM VIEWING DISTANCE (2X DIAGONAL OF SCREEN)
MAXIMUM VIEWING DISTANCE FOR COMPUTER TEXT (4X DIAGONAL OF SCREEN)
MAXIMUM VIEWING DISTANCE FOR STANDARD VIDEO IMAGE (8X DIAGONAL OF SCREEN)
26'
RE-ZONED LIGHTING TO ACCOMODATE NOTE TAKING WHILE VIEWING
PROJECTION PEDESTAL

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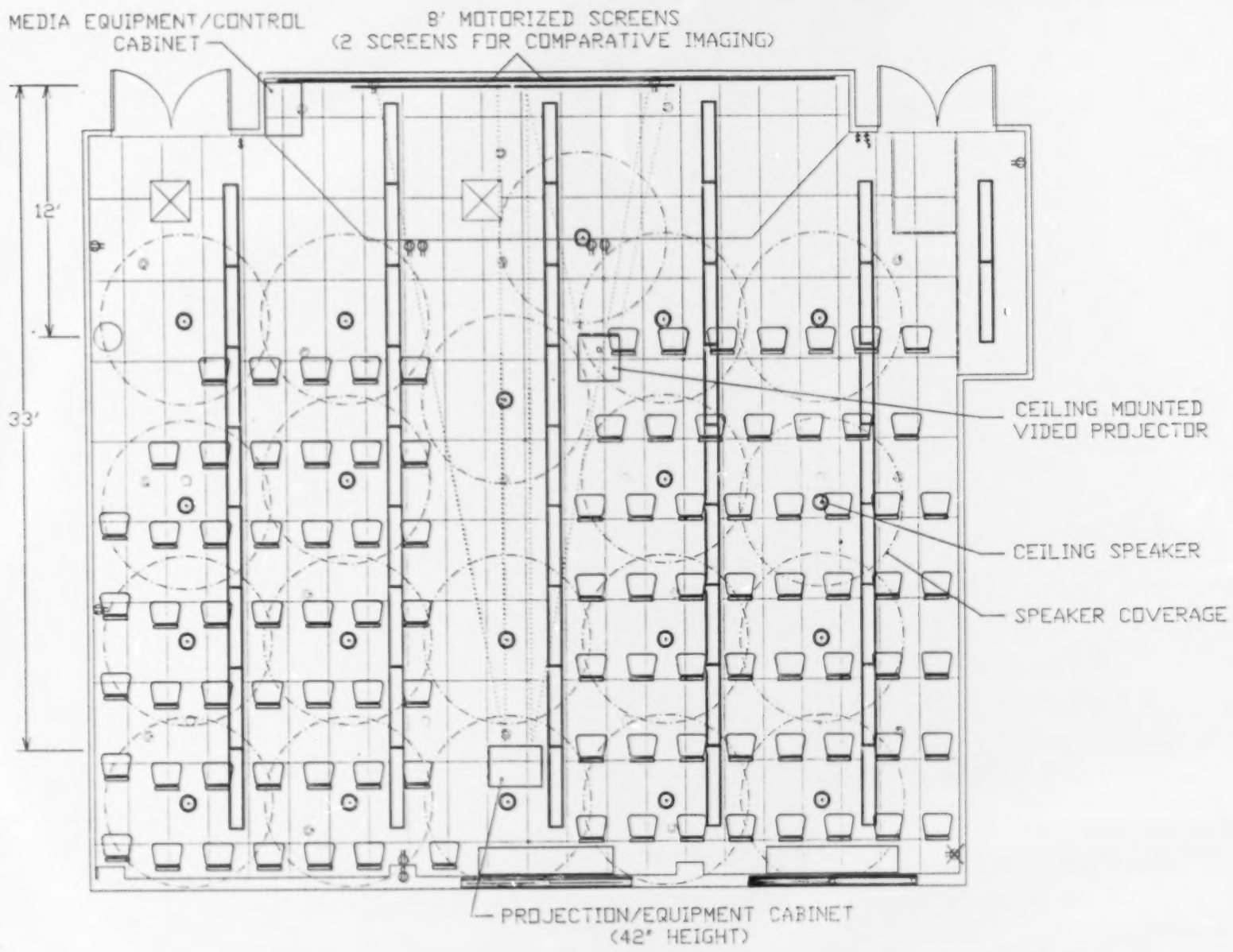
CAPEN 10 | MEDIA EQUIPPED CLASSROOM | CONCEPT: B | #8



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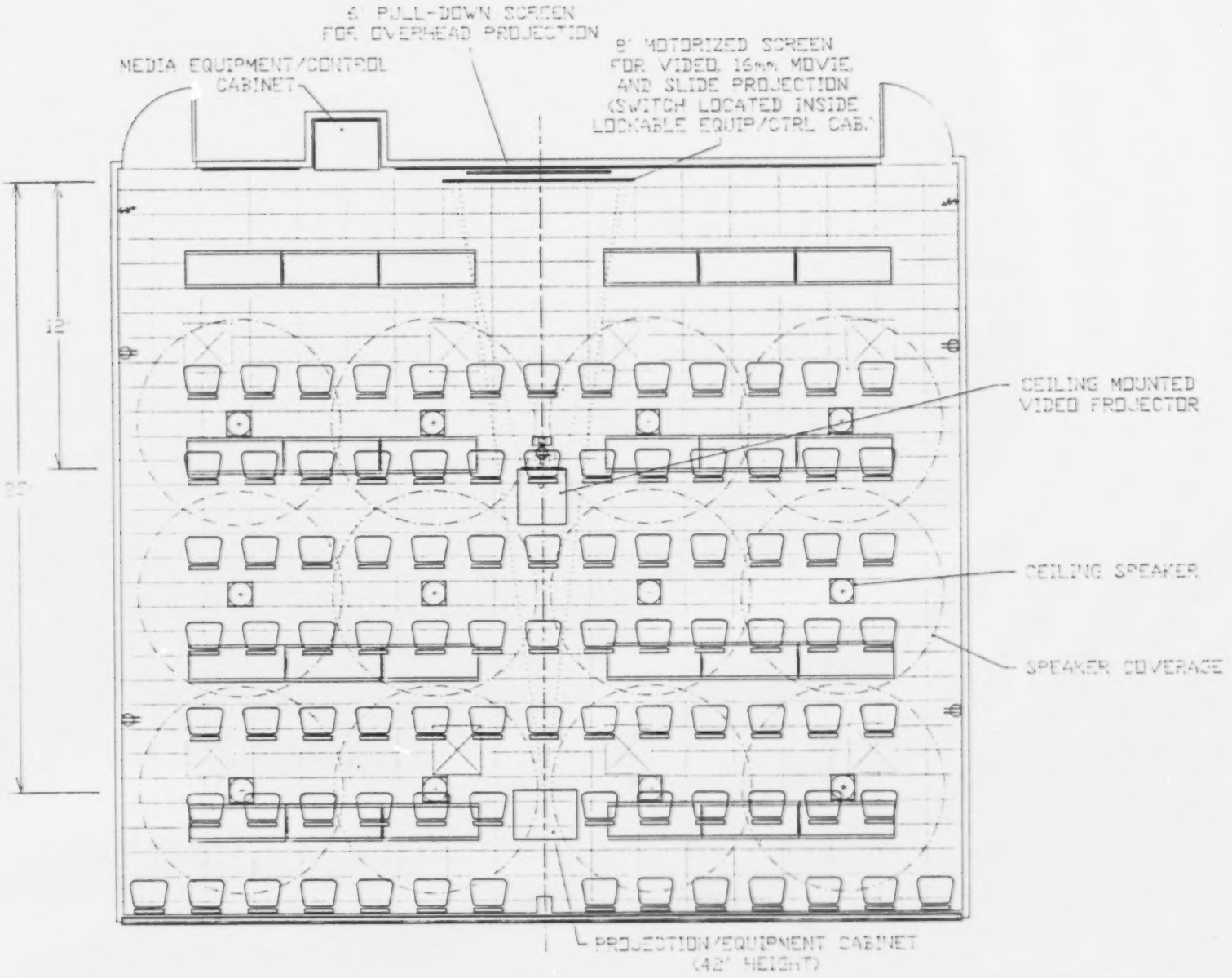
TOWER 125 | MEDIA EQUIPPED CLASSROOM | CONCEPT: B | # 7



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CONCEPT: A
3

FILLMORE 322 MEDIA EQUIPPED CLASSROOM